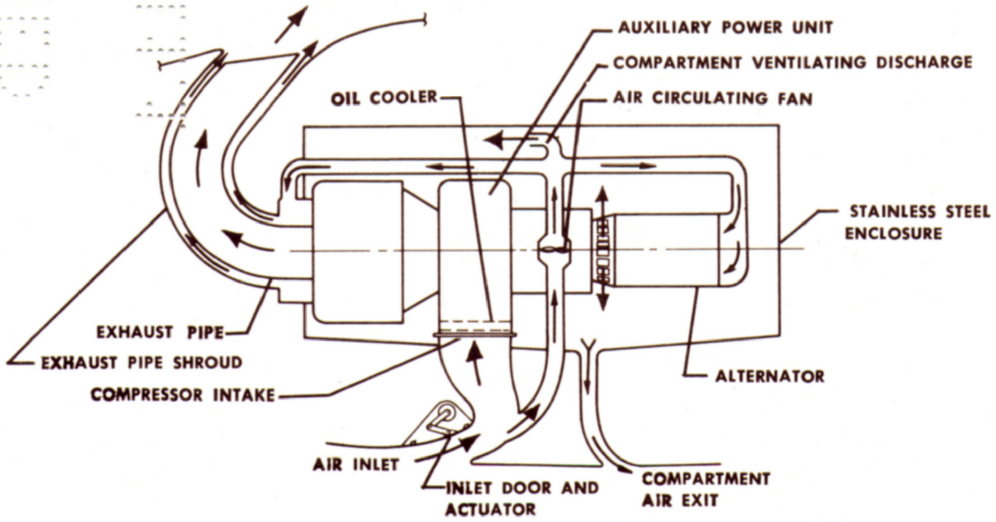
AUXILIARY POWER PLANT

An auxiliary power plant is provided as a source of pneumatic and electrical power on the ground and emergency electrical power in flight. The compressed air is used on the ground for engine starting, cabin air conditioning and cargo compartment heating. The electrical power is used for engine heating prior to s tarting at ambient temperatures below -40°F, in addition to normal equipment check-out and lighting before starting the main engines.

The power plant, an AiResearch GTCP 185 with a 60 KVA alternator, is installed in a housing of fireproof material in the lower forward fuselage. Ducts are provided for air intake, turbine exhaust, and cooling air exhaust. The air intake opening is designed and located to take advantage of ram pressure for flight operation.

The configuration of the housing and the ventilating and cooling system provides a maximum of separation of fuel vapors and sources of ignition. Fresh, uncontaminated air is provided for the compressor intake, alternator cooling compartment ventilation, and exhaust pipe cooling. The ventilating and cooling system is shown schematically.

Fire protection for this installation consists of an individual CB sphere mounted adjacent to the unit, and the means for shutting off the fuel and air supply. The control and instrument panels for the auxiliary power plant and associated equipment are located at the systems engineer's station.



AUXILIARY POWER PLANT AIR FLOW SCHEMATIC